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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/080,994	02/20/2002	Akira Tsukihashi		1310

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EXAMINER
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BATTAGLIA, MICHAEL V

ART UNIT	PAPER NUMBER
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2652

DATE MAILED: 03/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/080,994	Applicant(s) TSUKIHASHI ET AL.	
	Examiner Michael V. Battaglia	Art Unit 2652	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 15 December 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 3-11 and 23 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 3-11 and 23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

*Claim Rejections - 35 USC § 112*

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 3-23 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. In Applicant's amendments received May 27, 2005 and July 7, 2005, Applicant introduced claim limitations in independent claims 1 and 23 requiring "interrupting the recording of the recording signal onto the disk when it is determined that the recording position reaches the changeable position." According to Applicant's specification, "the recording interruption . . . can be performed using the recording control method with the occurrence of the buffer underrun" (Page 15, lines 19-22). Furthermore, Applicant's specification seems to describe a detection operation, performed after interruption of recording and before the linear speed is changed, that determines whether or not the recording position has been moved to a changeable position in which the linear speed can be changed to a higher speed by comparing the detected recording properties to predetermined properties (Page 15, line 23-Page 16, line 18). Accordingly, the specification does not describe interrupting the recording of the recording signal onto the disk when it is determined that the recording position reaches the changeable position (see pages 15-17 of the specification).

*Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3-8 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Salmonsens in view of Yen et al (hereafter Yen) (US 6,643,233).

In regard to claim 3, Salmonsens discloses a method for recording/reproducing comprising: controlling the recording of a recording signal from a moveable recording position onto a disk so that the recording signal is recorded onto the disk at a constant linear speed (Col. 5, lines 39-44); determining whether or not the recording position is moved to a determined position (“programmed stopping position” of Col. 4, line 9) (Col. 4, lines 8-18); interrupting the recording of the recording signal onto the disk when it is determined that the recording position reaches the determined position (Fig. 4, element 440; Col. 4, lines 8-18; and Col. 6, lines 66-67), reproducing the signal writing on the disk before resuming a reproducing/recording operation (Col. 6, line 67-Col. 7, line 1), detecting the recording properties of the disk based on a signal reproduced at a speed before the rotation speed is changed (Col. 5, lines 5-20 and 39-44 and Col. 7, lines 5-12 and note that the CLV drive method of Salmonsens “constantly varies the rate at which the disc is spinning” so any detection of Salmonsens is based on a signal reproduced at a speed before the rotation speed is changed), and reproducing the data recorded immediately before the recording of the recording signal onto the disk is interrupted and detecting the recording properties based on the reproduced signal (Col. 5, lines 5-20 and Col. 7, lines 5-12 and note that the claimed “data

recorded immediately before the recording of the recording signal onto the disk is interrupted” reads on the “data that was just written” before interruption of Salmonsens). It is noted that the recording properties of the disk are detected in order to set the writing laser power (Col. 5, lines 5-22) and the recording operation is resumed after maintaining or changing the writing laser power (Fig. 4, elements 445, 450 and 455 and Col. 7, lines 25-29). Salmonsens further discloses that by reevaluating the quality of a reproduced signal at arbitrary times and places, the laser power is appropriately adjusted to produce a better quality read-back signal (Col. 2, lines 58-62).

Salmonsens does not disclose that the recording properties of the disk are detected in order to set the linear speed, resuming the recording operation after the linear speed is changed to the higher speed if the detected recording properties are satisfactory, resuming the recording operation while a low linear speed is maintained if the detected recording properties are unsatisfactory, and that the determined position is a changeable position in which the linear speed can be changed to a higher speed.

Yen discloses detecting recording properties of the disk (“generating an error-count” of Col. 2, line 8) based on the reproduced signal in order to set writing speed and writing laser power to respective levels better suited for the recording properties (Col. 2, lines 2-16); resuming (Fig. 2, element S24) the recording operation (Fig. 2) after the linear speed is changed to the speed better suited for the detected recording properties.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to detect the recording properties of the disk based on a reproduced signal in the method and apparatus of Salmonsens in order to set the writing speed of Salmonsens (linear speed) as suggested by Yen and in order to set the writing laser power as suggested by Salmonsens, the motivation being to set the linear speed, in addition to the writing laser power, to levels better

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suited to the recording properties at the determined position of Salmonsens. It is noted that in the method of Salmonsens in view of Yen, the determined position of Salmonsens is a changeable position in which the linear speed can be changed in the case when the linear speed better suited to the detected recording properties is different than the linear speed before the interrupting. It is further noted that in the method of Salmonsens in view of Yen, the recording operation of Salmonsens is resumed after the linear speed is changed to the higher speed if the detected recording properties are satisfactory in the case where Yen determines that the recording properties of the disk ("error-count" of Col. 2, line 8 of Yen) fall within or are satisfactory for a range corresponding to a higher speed than the speed at which recording was previously carried out (Col. 2, lines 2-17). In the method of Salmonsens in view of Yen, the recording operation is resumed while a low linear speed is maintained if the detected recording properties are unsatisfactory in the case where the recording properties of the disk ("error-count" of Col. 2, line 8 of Yen) are unsatisfactory for the ranges corresponding to higher speeds and fall within the range corresponding to the low linear speed at which recording was previously carried out (Col. 2, lines 2-17).

In regard to claim 4, Salmonsens discloses setting the laser power when recording is resumed in accordance with the detected recording properties (Fig. 4, element 455). Therefore, the linear recording speed will also be set when recording is resumed in accordance with the detected recording properties in the method of Salmonsens in view of Yen.

In regard to claim 5, Salmonsens discloses setting laser power when recording is resumed in accordance with the recording properties detected based on the reproduced signal. Therefore, the linear recording speed will also be set when recording is resumed in accordance with the recording properties detected based on the reproduced signal in the method of Salmonsens in view of Yen.

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Salmonsens further discloses that no adjustments are made until it is determined that adjustments should be made. Therefore, the reproduction will occur at linear speed at the time of interruption of recording.

In regard to claims 6-8, Yen discloses setting the linear speed based upon the predetermined criteria that the detected recording properties fulfill/do not meet (Col. 2, lines 2-16). It is noted that detected recording properties are the number of errors detected in the reproduced signal and the predetermined criteria that are fulfilled or not met are the sets of number ranges corresponding to the number of errors. Therefore, in the method of Salmonsens in view of Yen, recording is resumed with a linear recording speed higher than the linear speed at the time of interruption of recording, an unchanged linear recording speed, or a reduced linear recording speed depending on which of the predetermined criteria are fulfilled or not met.

In regard to claim 23, Salmonsens discloses a method for recording/reproducing comprising: temporarily storing a recording signal in a buffer (Fig. 2, element 275 and Col. 4, lines 1-3); controlling the recording of a recording signal from a moveable recording position onto a disk so that the recording signal is recorded onto the disk at a constant linear speed (Col. 5, lines 39-44); determining whether or not the recording position is moved to a determined position ("programmed stopping position" of Col. 4, line 9) (Col. 4, lines 8-18); interrupting the recording of the recording signal onto the disk when it is determined that the recording position reaches the determined position (Fig. 4, element 440; Col. 4, lines 8-18; and Col. 6, lines 66-67), reproducing the signal writing on the disk before resuming a reproducing/recording operation (Col. 6, line 67-Col. 7, line 1), detecting the recording properties of the disk based on a signal reproduced at a speed before the rotation speed is changed (Col. 5, lines 5-20 and 39-44 and Col. 7, lines 5-12 and note that the CLV drive method of Salmonsens "constantly varies the rate at which the disc is

spinning” so any detection of Salmonsens is based on a signal reproduced at a speed before the rotation speed is changed), and reproducing the data recorded immediately before the recording of the recording signal onto the disk is interrupted and detecting the recording properties based on the reproduced signal (Col. 5, lines 5-20 and Col. 7, lines 5-12 and note that the claimed “data recorded immediately before the recording of the recording signal onto the disk is interrupted” reads on the “data that was just written” before interruption of Salmonsens). It is noted that the recording properties of the disk are detected in order to set the writing laser power (Col. 5, lines 5-22) and the recording operation is resumed after maintaining or changing the writing laser power (Fig. 4, elements 445, 450 and 455 and Col. 7, lines 25-29). Salmonsens further discloses that by reevaluating the quality of a reproduced signal at arbitrary times and places, the laser power is appropriately adjusted to produce a better quality read-back signal (Col. 2, lines 58-62).

Salmonsens does not disclose that the recording properties of the disk are detected in order to set the linear speed, resuming the recording operation after the linear speed is changed to the higher speed if the detected recording properties are satisfactory, resuming the recording operation while a low linear speed is maintained if the detected recording properties are unsatisfactory, and that the determined position is a changeable position in which the linear speed can be changed to a higher speed.

Yen discloses detecting recording properties of the disk (“generating an error-count” of Col. 2, line 8) based on the reproduced signal in order to set writing speed and writing laser power to respective levels better suited for the recording properties (Col. 2, lines 2-16); resuming (Fig. 2, element S24) the recording operation (Fig. 2) after the linear speed is changed to the speed better suited for the detected recording properties.



Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to detect the recording properties of the disk based on a reproduced signal in the method and apparatus of Salmonsens in order to set the writing speed of Salmonsens (linear speed) as suggested by Yen and in order to set the writing laser power as suggested by Salmonsens, the motivation being to set the linear speed, in addition to the writing laser power, to levels better suited to the recording properties at the determined position of Salmonsens. It is noted that in the method of Salmonsens in view of Yen, the determined position of Salmonsens is a changeable position in which the linear speed can be changed in the case when the linear speed better suited to the detected recording properties is different than the linear speed before the interrupting. It is further noted that in the method of Salmonsens in view of Yen, the recording operation of Salmonsens is resumed after the linear speed is changed to the higher speed if the detected recording properties are satisfactory in the case where Yen determines that the recording properties of the disk ("error-count" of Col. 2, line 8 of Yen) fall within or are satisfactory for a range corresponding to a higher speed than the speed at which recording was previously carried out (Col. 2, lines 2-17). In the method of Salmonsens in view of Yen, the recording operation is resumed while a low linear speed is maintained if the detected recording properties are unsatisfactory in the case where the recording properties of the disk ("error-count" of Col. 2, line 8 of Yen) are unsatisfactory for the ranges corresponding to higher speeds and fall within the range corresponding to the low linear speed at which recording was previously carried out (Col. 2, lines 2-17).

3. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Salmonsens in view of Yen as applied to claim 5 above, and further in view of Takeshita (US 6,556,524).

Salmonsens in view of Yen discloses adjusting the linear recording speed and resuming a recording operation, when the detected recording properties indicate that adjustment is needed. Salmonsens in view of Yen does not specifically disclose lowering the linear recording speed and resuming a recording operation, when the detected recording properties indicate that reproduction is not possible.

Takeshita discloses lowering a recording speed when the detected recording properties indicate that reproduction is not possible (Fig. 3, elements S24-S26). The recording speed is lowered to a speed that may produce recordings having detected recording properties of acceptable quality for reproduction (Fig. 3).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to lower the linear recording speed and resume a recording operation in the method of Salmonsens in view of Yen when the detected recording properties indicate that reproduction is not possible as suggested by Takeshita, the motivation being to adjust the linear recording speed to a speed at which the recorded signal may be able to be reproduced when it has been determined that the quality of the reproduced signal is unacceptable for reproduction.

4. Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Salmonsens in view of Yen as applied to claim 3 above, and further in view of Takeshita.

In regard to claim 10, Salmonsens discloses comparing recording property data detected at a previous point with current recording property data to detect the recording properties (Col. 6, lines 12-18). Salmonsens does not disclose that the previous point at which recording property data is detected is a point of change of linear recording speed. The previous point at which recording property data is detected is instead during an optimum power control (OPC) process (Col. 6, lines 16-18).

Takeshita discloses performing an OPC while also changing the recording speed (Abstract) to determine an optimum recording speed in which read errors during reproduction are minimized (Col. 6, lines 21-32).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to perform an OPC in the method and apparatus of Salmonsens in view of Yen while changing the recording speed as suggested by Takeshita, the motivation being to additionally determine an optimum recording speed during the OPC process of Salmonsens. It is noted that when changing the recording speed is added to the method of Salmonsens in view of Yen, previous point at which recording property data is detected becomes a point of change of linear recording speed.

In regard to claim 11, Salmonsens discloses that writing laser power for resumption of recording is set based on a difference between the recording property data previously detected and the current recording property data (Col. 6, lines 16-20). Therefore, in the method of Salmonsens in view of Yen and further in view of Takeshita, the writing laser power and the linear recording speed for resumption are set based on a difference between the recording property data detected at the previous change time of the linear recording speed and the current recording property data.

### *Response to Arguments*

5. Applicant's arguments filed December 15, 2005 with respect to the rejections under 35 U.S.C. § 112, first paragraph, have been fully considered but they are not persuasive. Applicant presents no arguments explaining how the limitation "interrupting the recording of the recording signal onto the disk when it is determined that the recording position reaches the changeable position" is made clear from the specification. Applicant's specification does not describe

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interrupting the recording of the recording signal onto the disk when it is determined that the recording position reaches the changeable position for the reasons stated in the rejection above.

6. Applicant's arguments filed December 15, 2005 with respect to the prior art rejections have been fully considered but they are not persuasive. Applicant argues that Applicant's argument differs from Yen individually even though the rejections are based on Salmensen in view of Yen. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

#### *Conclusion*

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

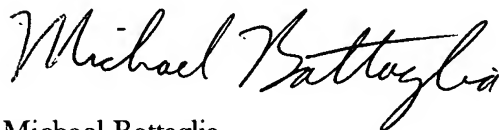
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

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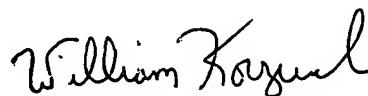
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael V. Battaglia whose telephone number is (571) 272-7568. The examiner can normally be reached on M-F, 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William R. Korzuch can be reached on (571) 272-7589. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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